

Fig. 1a

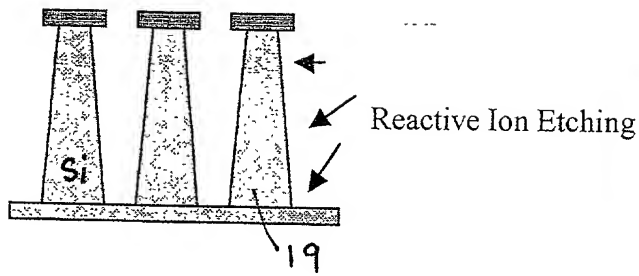


Fig. 1b

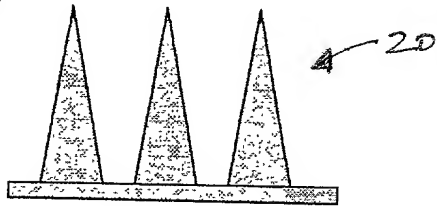
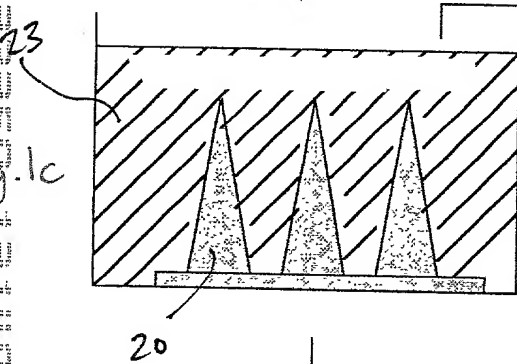


Fig. 1c



Vacuuming

Curing

Fig. 1d

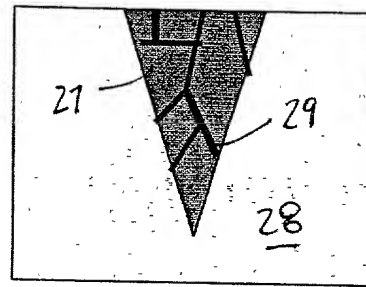
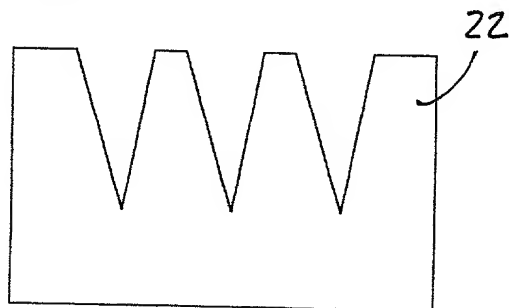


Fig. 1g

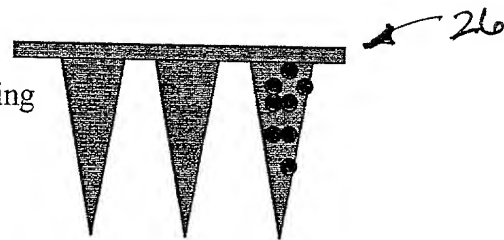


Fig. 1f

Melting and Vacuuming

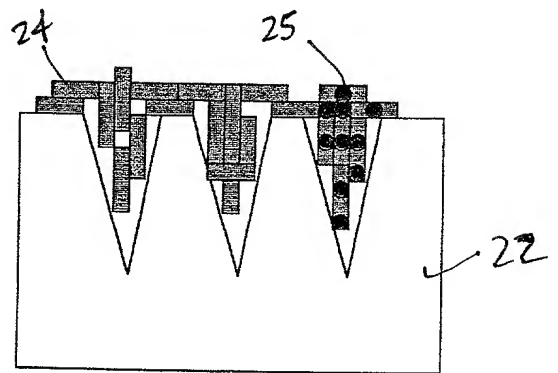
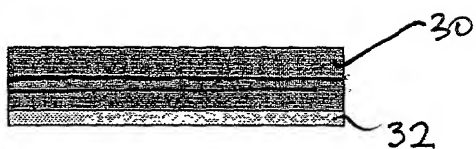


Fig. 1e

Fig. 1

Fig. 2a



Aluminum deposition

Fig. 2b

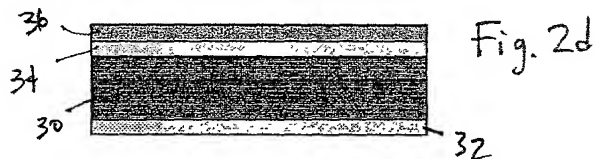
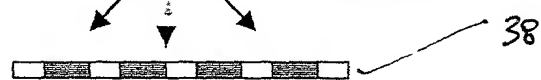


Photoresist Coating

Fig. 2c

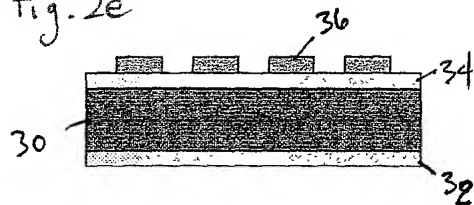


UV Exposure

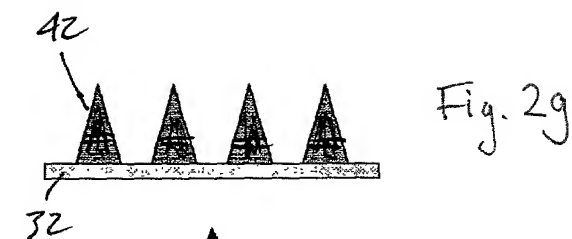


Developing

Fig. 2e



Al etching



Reactive Ion Etching

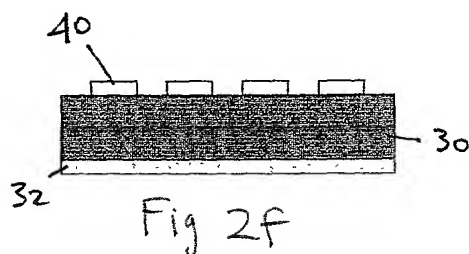


Fig. 2

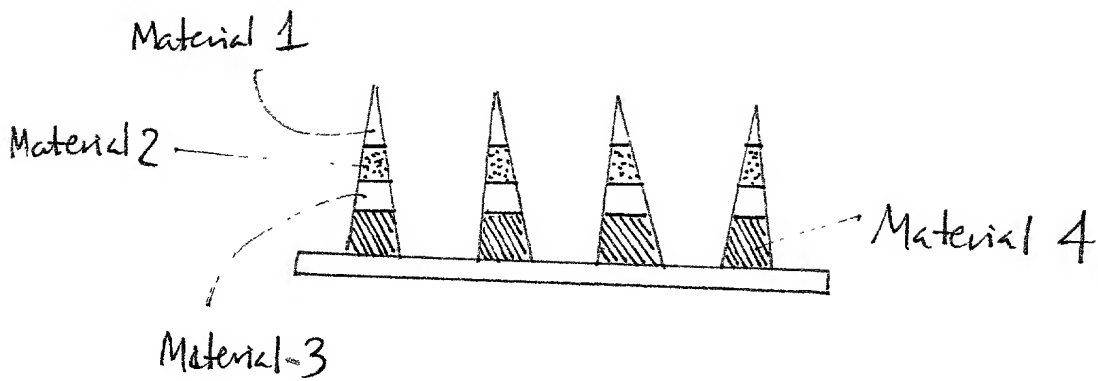


Fig. 3

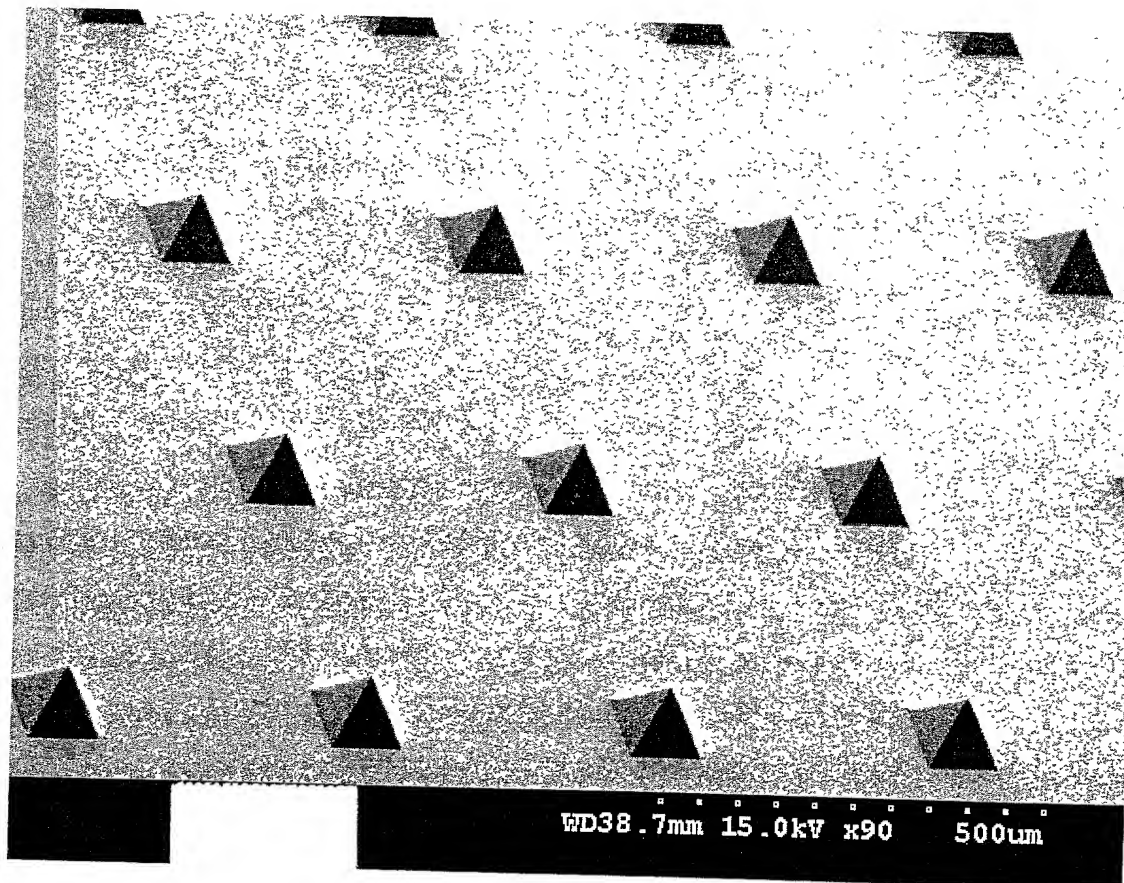


Figure 4

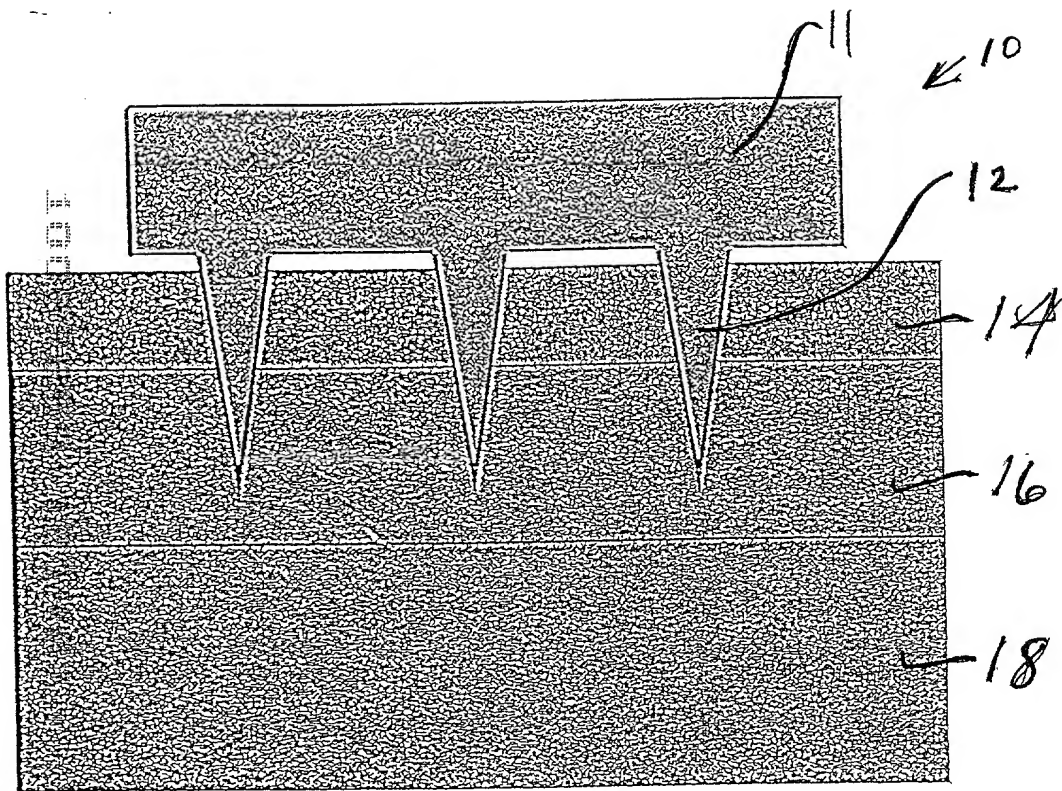
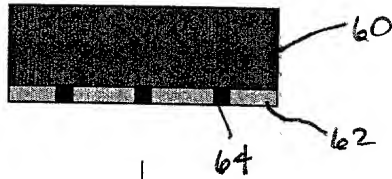


Fig. 5

Fig. 6

Fig. 6a



UV Exposure

Fig. 6b

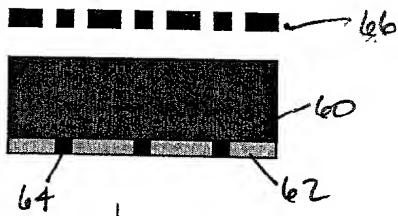
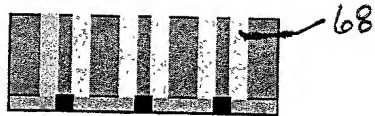
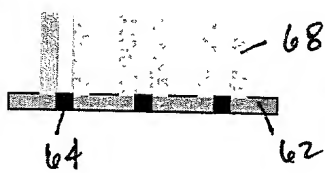


Fig. 6c



Developing of
Non-X-linked SU-8

Fig. 6d



Silicone mold
(Poly-dimethyl siloxane)

Fig. 6g

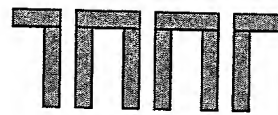
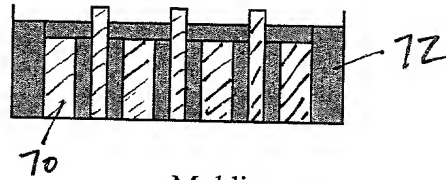


Fig. 6f



Molding

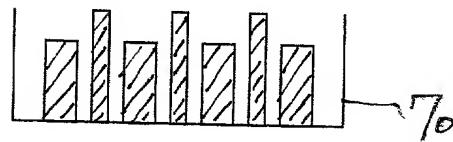


Fig. 6e

Figure 7

Fig. 7a

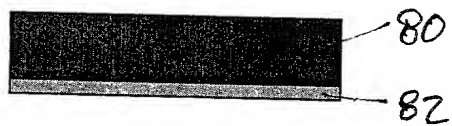


Fig. 7b

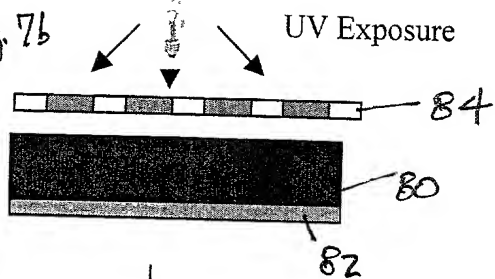
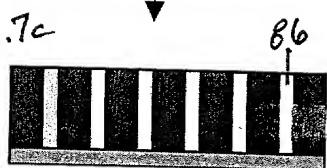
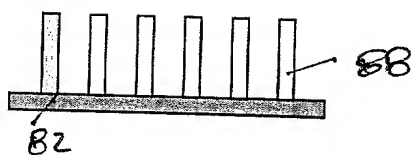


Fig. 7c



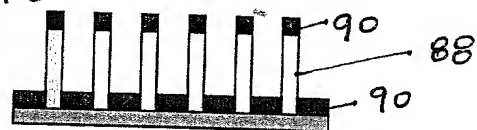
Developing of
Non-X-linked SU-8

Fig. 7d



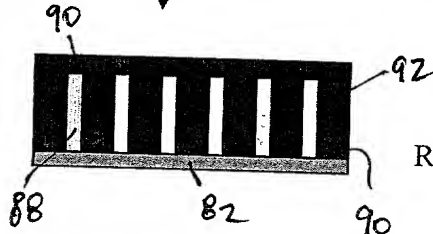
Metal Deposition

Fig. 7e



Filling up with SU-8

Fig. 7f



Reactive Ion Etching

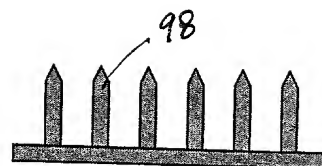


Fig. 7k

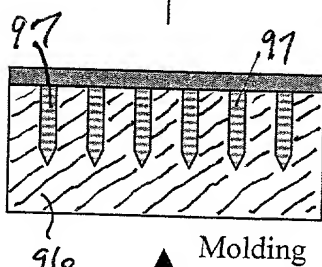


Fig. 7j

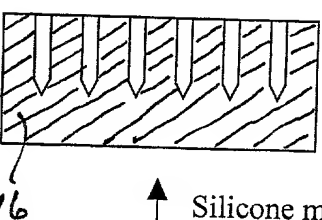


Fig. 7i

Silicone mold
(Poly-dimethyl siloxane)

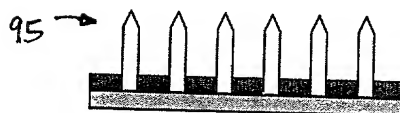


Fig. 7h

Developing

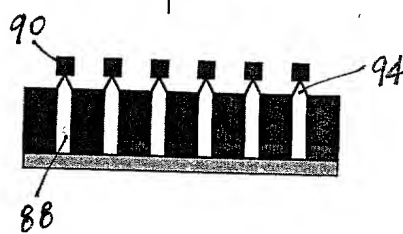


Fig. 7g

Figure 8

Fig. 8a

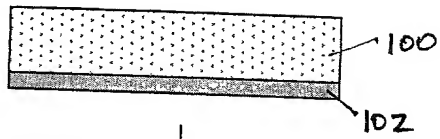


Fig. 8b

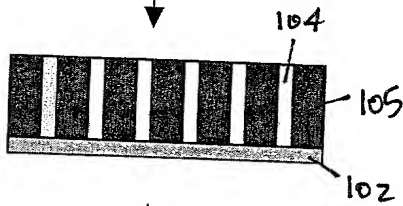
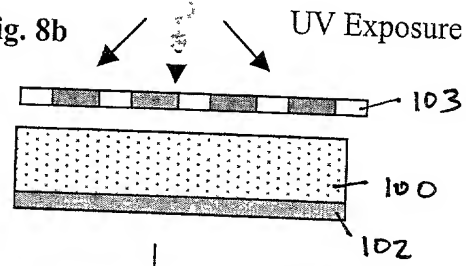


Fig. 8c

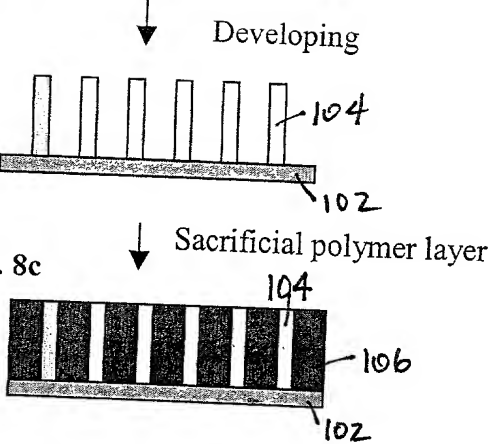


Fig. 8d

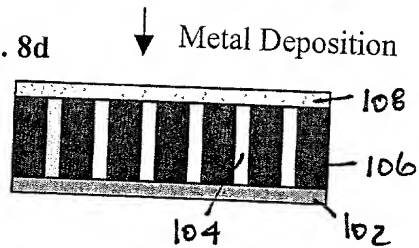


Fig. 8e

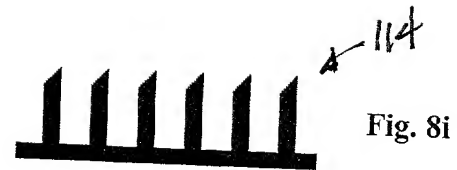
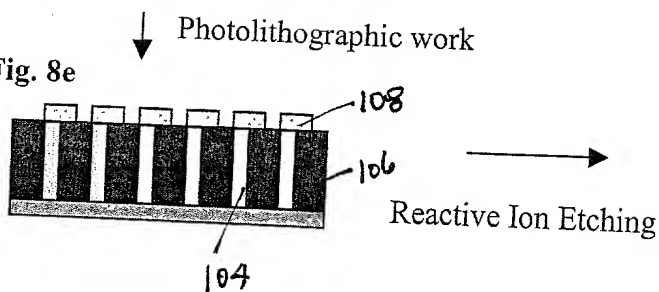


Fig. 8i

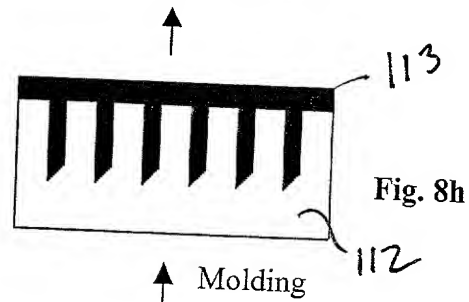


Fig. 8h

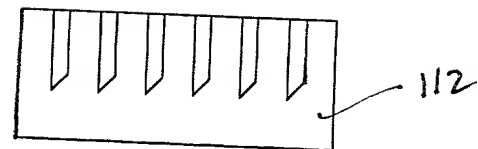


Fig. 8g

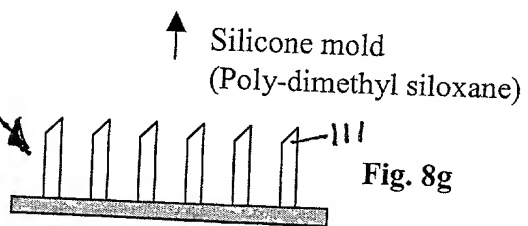
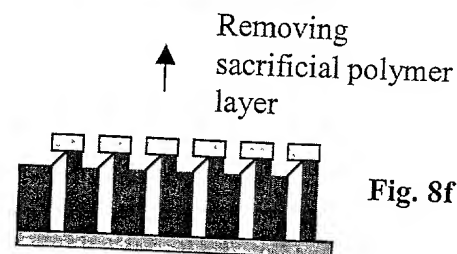


Fig. 8f



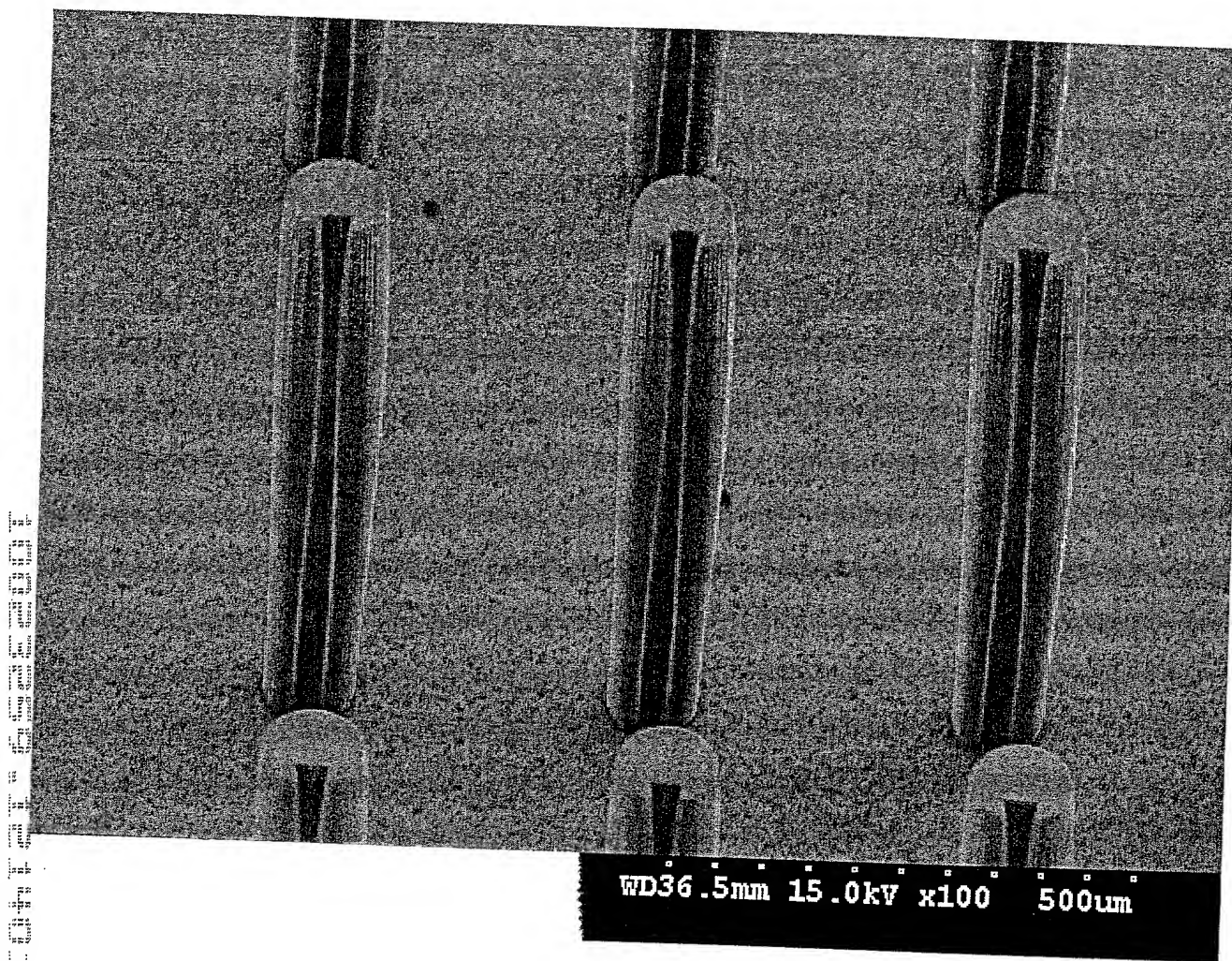
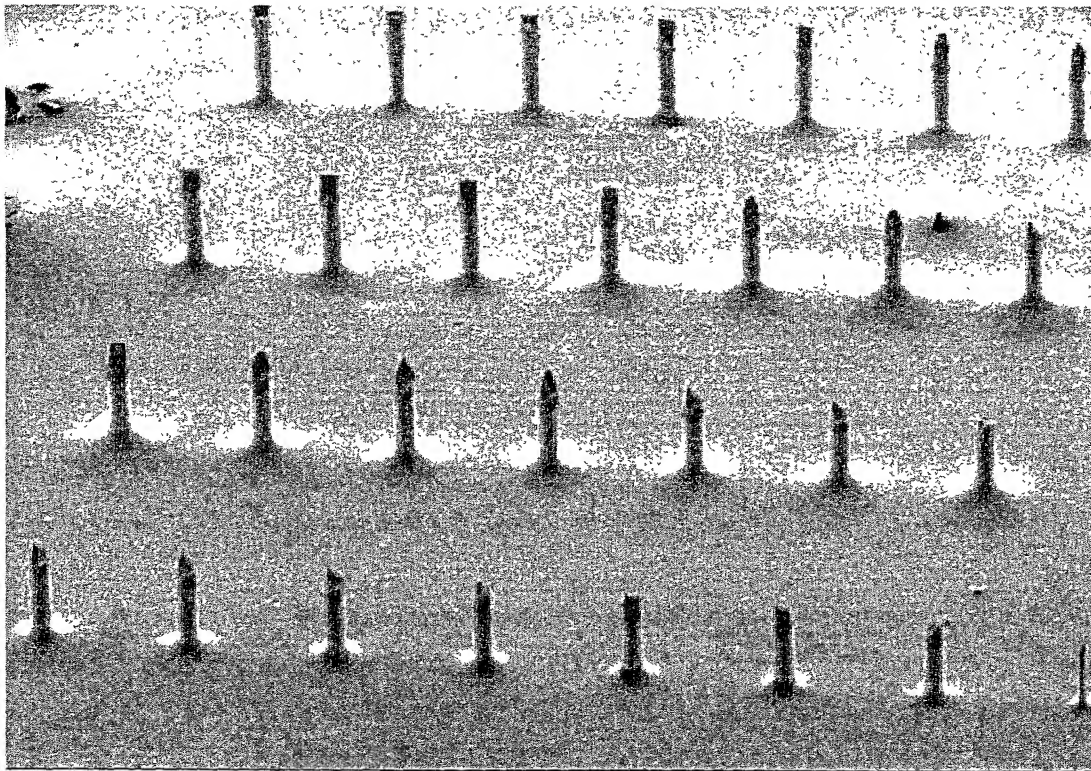
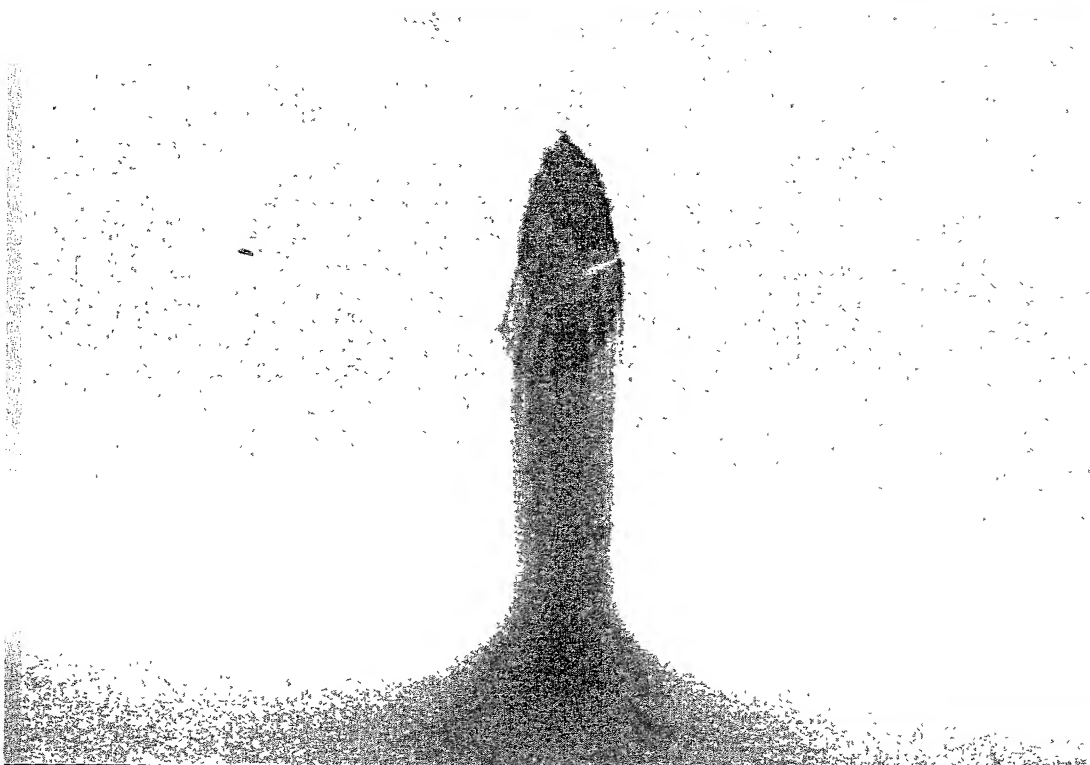


Fig. 9



WD38.9mm 10.0kV x25 2mm

Fig. 10a



WD36.6mm 10.0kV x150 200um

Fig. 10b

Figure 11

Fig. 11a



↓
Si₃N₄ Deposition

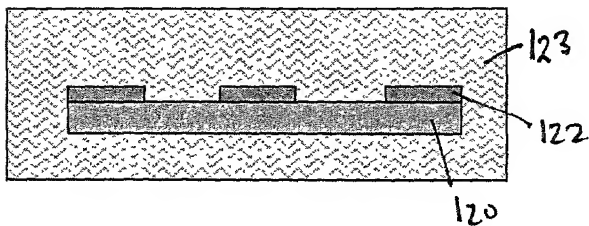


↓
Photolithographic work +
Reactive ion etching

Fig. 11b

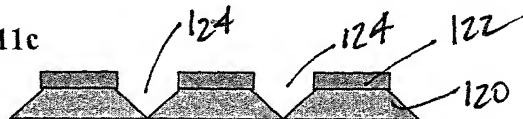


↓
Put wafer in 33% KOH



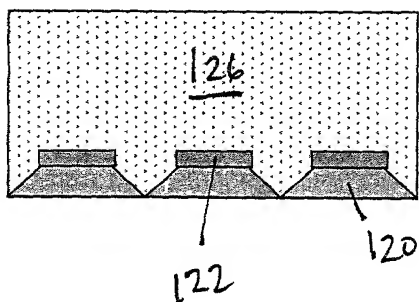
↓
KOH wet etching

Fig. 11c



↓
SU-8 epoxy filling

Fig. 11d



→
Photolitho-
graphic work

Fig. 11e

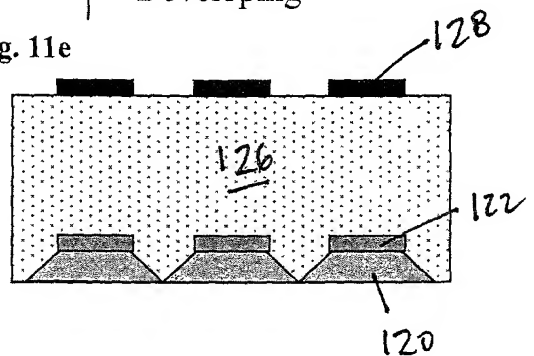


Fig. 11g

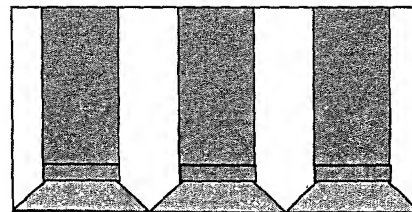
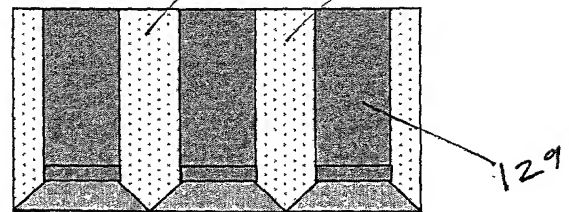
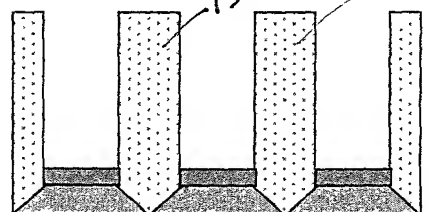


Fig. 11f

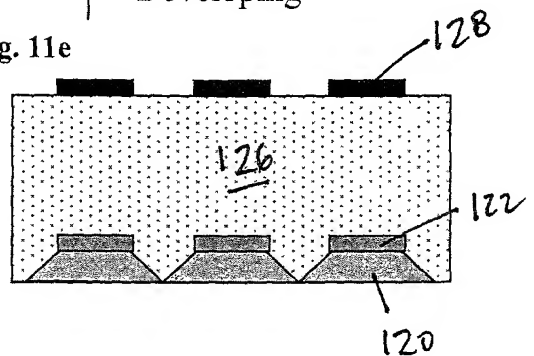


↑
PDMS pouring +
crosslinking



↑
Developing

Fig. 11e



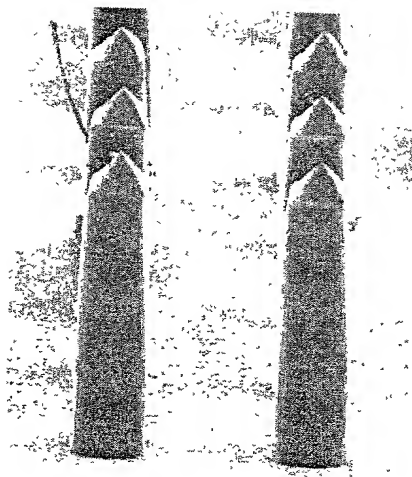


Figure 12